**Activity Lab 1-8b**

**Multiplying and Dividing Decimals by 10, 100 and 1,000**

*There are SHORTCUTS for multiplying and dividing decimals by 10, 100 and 1,000. You can use these shortcuts to multiply mentally.*

1. Use a calculator to multiply

2.6 x 10 = \_\_\_\_\_\_\_\_\_\_\_\_ 0.45 x 10 = \_\_\_\_\_\_\_\_\_

**Patterns-** What did you notice about the movement of the decimal point when you multiply by 10?

2.6 x 100 = \_\_\_\_\_\_\_\_\_\_\_\_ 0.45 x 100 = \_\_\_\_\_\_\_\_\_

**Patterns-** What did you notice about the movement of the decimal point when you multiply by 100?

2.6 x 1,000 = \_\_\_\_\_\_\_\_\_\_\_\_ 0.45 x 1,000 = \_\_\_\_\_\_\_\_\_

**Patterns-** What did you notice about the movement of the decimal point when you multiply by 1,000?

**Rules-**

When you multiply by 10 you move the decimal point \_\_\_\_\_\_\_ place to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

When you multiply by 100 you move the decimal point \_\_\_\_\_\_\_ places to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

When you multiply by 1,000 you move the decimal point \_\_\_\_\_\_\_ places to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Predict** what will happen if you multiply a decimal number by 10,000.

1. Use a calculator to divide

2.6 ÷10 = \_\_\_\_\_\_\_\_\_\_\_\_ 0.45 ÷ 10 = \_\_\_\_\_\_\_\_\_

**Patterns-** What did you notice about the movement of the decimal point when you divide by 10?

2.6 ÷ 100 = \_\_\_\_\_\_\_\_\_\_\_\_ 0.45 ÷ 100 = \_\_\_\_\_\_\_\_\_\_\_

**Patterns-** What did you notice about the movement of the decimal point when you divide by 10?

2.6 ÷ 1,000 = \_\_\_\_\_\_\_\_\_\_\_\_ 0.45 ÷1,000 = \_\_\_\_\_\_\_\_\_

**Patterns-** What did you notice about the movement of the decimal point when you divide by 10?

**Rules-**

When you divide by 10 you move the decimal point \_\_\_\_\_\_\_ place to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

When you divide by 100 you move the decimal point \_\_\_\_\_\_\_ places to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

When you divide by 1,000 you move the decimal point \_\_\_\_\_\_\_ places to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Predict** what will happen if you divide a decimal number by 10,000

**Exercises-** Use mental math to find each answer.

**1.** 6.2 x 10 = \_\_\_\_\_\_\_\_\_ **2.** 122.9 ÷10 = \_\_\_\_\_\_\_\_\_ **3.** 161.7 ÷100 = \_\_\_\_\_\_\_\_\_\_\_\_\_

**4.** 1,000(43) = \_\_\_\_\_\_\_\_\_\_ **5.** 1.5 ÷ 100= \_\_\_\_\_\_\_\_\_\_\_ **6.** 1,000  0.89= \_\_\_\_\_\_\_\_\_\_\_

**Practice**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **1 a.** | **1.762 × 10 = \_\_\_\_\_\_\_\_** | | |  |  | | --- | --- | | **1 b.** | **0.35 × 10 = \_\_\_\_\_\_\_\_** | |
| |  |  | | --- | --- | | **2 a.** | **3.20 × 10 = \_\_\_\_\_\_\_\_** | | |  |  | | --- | --- | | **2 b.** | **2.03 × 1000 = \_\_\_\_\_\_\_\_** | |
| |  |  | | --- | --- | | **3 a.** | **0.86 × 1000 = \_\_\_\_\_\_\_\_** | | |  |  | | --- | --- | | **3 b.** | **0.53 × 10 = \_\_\_\_\_\_\_\_** | |
| |  |  | | --- | --- | | **4 a.** | **1000 × 1.392 = \_\_\_\_\_\_\_\_** | | |  |  | | --- | --- | | **4 b.** | **1.43 × 100 = \_\_\_\_\_\_\_\_** | |
| |  |  | | --- | --- | | **5 a.** | **1000 × 1.723 = \_\_\_\_\_\_\_\_** | | |  |  | | --- | --- | | **5 b.** | **1000 × 2.7 = \_\_\_\_\_\_\_\_** | |
| |  |  | | --- | --- | | **1 a.** | **\_\_\_\_\_\_\_\_ × 10 = 17** | | |  |  | | --- | --- | | **1 b.** | **0.395 × \_\_\_\_\_\_\_\_ = 3.95** | |
| |  |  | | --- | --- | | **2 a.** | **0.3 × \_\_\_\_\_\_\_\_ = 300** | | |  |  | | --- | --- | | **2 b.** | **\_\_\_\_\_\_\_\_ × 100 = 100** | |
| |  |  | | --- | --- | | **3 a.** | **2.90 × \_\_\_\_\_\_\_\_ = 29** | | |  |  | | --- | --- | | **3 b.** | **1000 × \_\_\_\_\_\_\_\_ = 600** | |
| |  |  | | --- | --- | | **4 a.** | **\_\_\_\_\_\_\_\_ × 1.90 = 190** | | |  |  | | --- | --- | | **4 b.** | **\_\_\_\_\_\_\_\_ × 1000 = 3505** | |
| |  |  | | --- | --- | | **5 a.** | **1000 × \_\_\_\_\_\_\_\_ = 1956** | | |  |  | | --- | --- | | **5 b.** | **\_\_\_\_\_\_\_\_ × 10 = 7.05** | |